[ABSTRACT]

A method of preparing a phosphor screen having at least a substrate and a phosphor layer comprising a $CsX:Eu^{2+}$ phosphor wherein X represents a halide selected from a group consisting of Br and Cl and wherein the phosphor is deposited by physical vapour deposition on the substrate. During deposition the substrate is at a temperature in the range of 135°C to 235°C and variation of the temperature of the substrate occurring during the deposition process is not more than 50°C.